ASTROFISICA TEORICA

COMUNICACIONES

The mass function in spectroscopic binaries

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Abstract: The distribution of the mass function of bright spectroscopic binaries is studied for systems with dwarf and with giant primaries. It is found that the distribution is very similar in both cases.

Assuming that the inclination has a random distribution and postulating different distribution functions for the mass ratio, it is found that the distribution of the mass function depends only weakly upon the distribution function of the mass ratio.

Apparently a distribution law $f(\mu) = \mu^{-7/3}$ reproduces well the observed statistics, provided that μ varies between 1 and 0,25. These results are in agreement with those found by C. Jaschek in Publ. Obs. Geneve, N^{v} 24 (1971).

The paper in full will be published elsewhere.

Critical revision of the methods for the derivation of the luminosity function

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Abstract: Different methods employed for the derivation of the luminosity function in the solar neighbourhood are reviewed. It is shown that most of these methods introduce systematic errors in the results. It is shown that, with certain improvements, van Rhijn's method is the best one.

* Becario interno del Consejo Nacional de Investigaciones Científicas y Técnicas.

The luminosity function in the solar neighbourhood

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Abstract: van Rhijn's method is used to derive the luminosity function in the solar neighbourhood from large proper motion stars. The values obtained are smaller than the currently accepted ones; for $M_B < 9$, the factor is of the order of two. It is shown that these differences arise from the systematic errors of other methods, specially for non-inclusion of the correction for the errors of the parallaxes. The luminosity function has some irregularities, not previously found because of smoothing. A secondary maximum near $M_B = 11$, particularly, seems to be a real feature.

* Becario interno del Consejo Nacional de Investigaciones Científicas y Técnicas.

Acerca de los parámetros de cúmulos abiertos y nubes galácticas

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Resumen: El problema de la relación entre nubes y estrellas es analizado según las relaciones entre el núcleo y el tamaño de los cúmulos abiertos.

A Re-Analysis of τ U Ma

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Abstract: A re-analysis of the Am star τ U Ma is carried out using new determinations of effective temperature and gravity. The abundances agree in general except a constant factor with those found by Greenstein. The existence of certain heavy elements founded in the most cold Ap stars is investigated.

INFORME DE TRABAJO

El diagrama magnitud - diámetro de las asociaciones de estrellas O y B y de los cúmulos estelares globulares y abiertos

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En el año 1960 el autor publicó por primera vez un diagrama que representa la dependencia de los diámetros de los cúmulos globulares de sus magnitudes integrales. Los datos observacionales directos, es decir, por un lado la magnitud integral aparente, por el otro lado el diámetro aparente ya nos dan una imaginación exacta del resultado final. Este realmente es una línea recta. Desde el punto de vista puramente matemático, este resultado no sufre